

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
11 August 2005 (11.08.2005)

PCT

(10) International Publication Number  
**WO 2005/074307 A1**

(51) International Patent Classification<sup>7</sup>: H04Q 7/22,  
H04L 12/28, G06F 15/16

(21) International Application Number:  
PCT/KR2004/002243

(22) International Filing Date:  
3 September 2004 (03.09.2004)

(25) Filing Language: English

(26) Publication Language: English

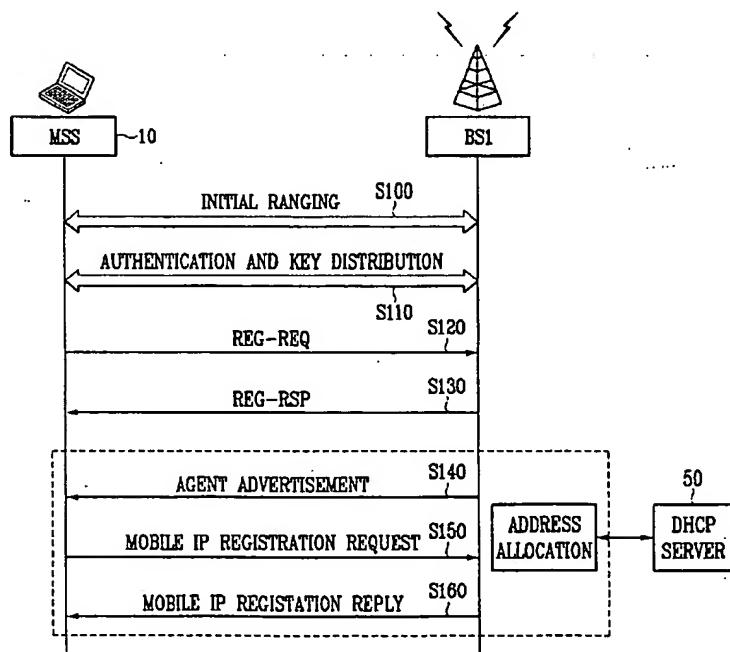
(30) Priority Data:  
10-2004-0006627 2 February 2004 (02.02.2004) KR  
10-2004-0035544 19 May 2004 (19.05.2004) KR  
10-2004-0066304 23 August 2004 (23.08.2004) KR

(71) Applicants (*for all designated States except US*): ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE [KR/KR]; 161, Gajeong-dong, Yuseong-gu, Daejeon 305-350 (KR). SAMSUNG ELECTRONICS CO., LTD. [KR/KR]; 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 442-742 (KR). KT CORPORATION [KR/KR]; 206, Jeongja-dong, Bundang-gu, Seongnam-City, Kyeongki-do 463-711 (KR). SK TELECOM CO., LTD. [KR/KR]; 99, Seorin-dong, Jongro-gu, Seoul 110-110 (KR). KTFREETEL CO., LTD. [KR/KR]; 890-20 Daechi-dong, Gangnam-gu, Seoul 135-280 (KR). HANARO TELECOM, INC. [KR/KR]; Shindongah Fire & Marine Insurance Building, 43, Taepyeongno 2-ga, Jung-gu, Seoul 100-733 (KR).

(72) Inventors; and  
(75) Inventors/Applicants (*for US only*): NA, Jee-Hyeon [KR/KR]; Hanvit Apt. 133-1505, Eoeun-dong, Yuseong-gu, Daejeon-city 305-755 (KR). YOON, Chul-Sik [KR/KR]; Daewoo Topia Apt. 1208, Dunsan-dong, Seo-gu, Daejeon-city 302-120 (KR). MOON, Jung-Mo [KR/KR]; 232-14 Neung-dong, Gwangjin-gu, Seoul 143-847 (KR). KIM, Yeong-Jin [KR/KR]; Nuri Apt. 107-1401, Wolpyeong-dong, Seo-gu, Daejeon-city

*[Continued on next page]*

(54) Title: METHOD FOR DYNAMIC ADDRESS ALLOCATION USING MOBILE IP IN WIRELESS PORTABLE INTERNET SYSTEM



(57) Abstract: In the method for dynamic IP allocation using a mobile IP in a wireless portable Internet system, a MAC message used to register a mobile subscriber station contains a flag including a mobile IP version parameter. Upon checking the mobile IP version, the mobile subscriber terminal transmits a mobile IP registration request message to a base station during MAC connection establishment. The base station transmits a mobile IP registration reply message to the mobile subscriber in response to the received mobile IP registration request message to allocate a dynamic IP address to the mobile subscriber station. The dynamic IP allocation process is performed through a secondary management connection to achieve a rapid handoff without using a connection identifier. In addition, the present invention supports a seamless service and the use of the mobile IP in the IEEE 802.16e wireless

WO 2005/074307 A1

portable Internet system.



302-280 (KR). AHN, Jee-Hwan [KR/KR]; 149-7 Sin-seong-dong, Yuseong-gu, Daejeon-city 305-345 (KR).

(74) Agent: YOU ME PATENT AND LAW FIRM; Seolim Bldg., 649-10 Yoksam-dong, Kangnam-ku, Seoul 135-080 (KR).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.